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The Navy

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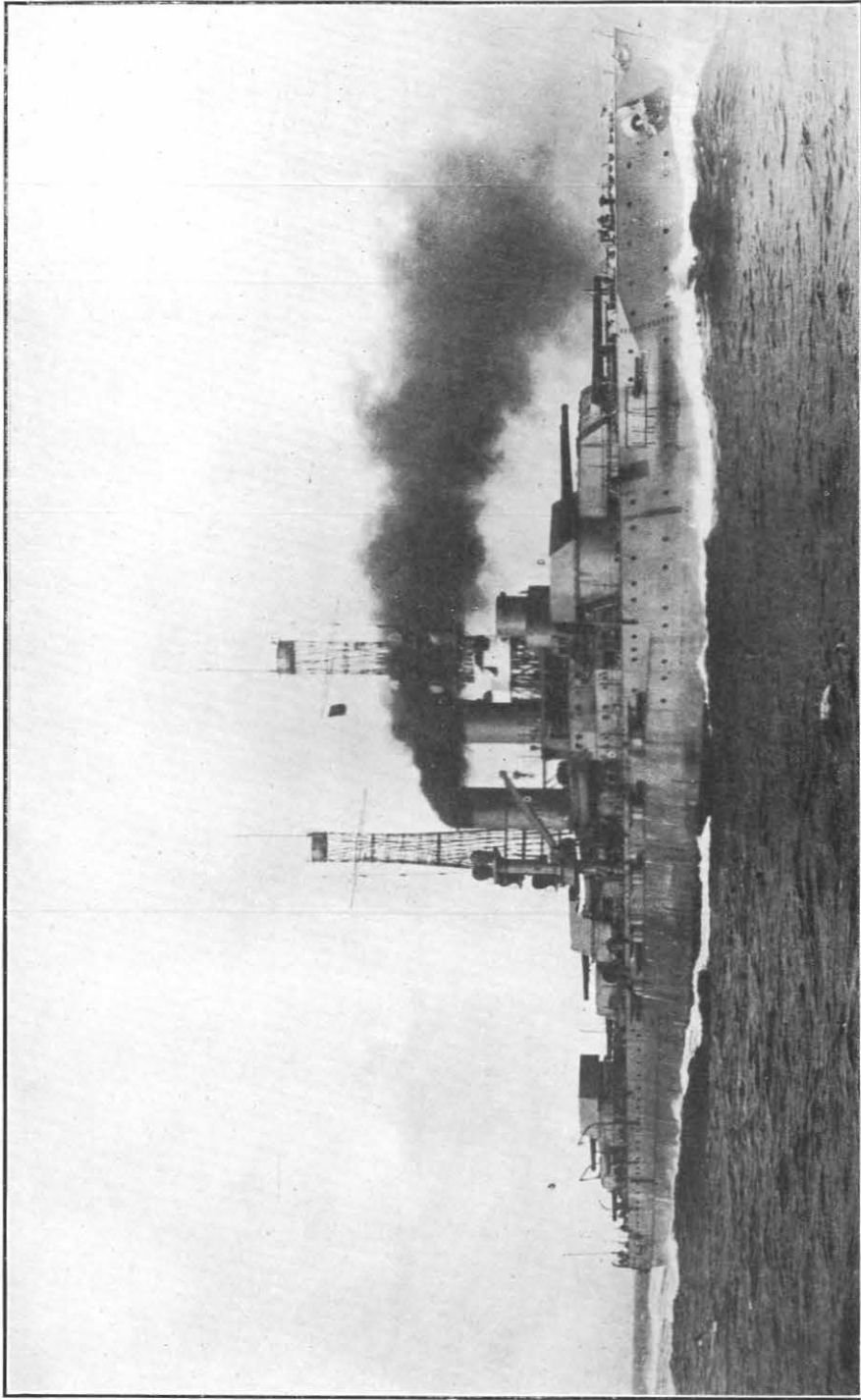
Special Field for Medical Work

By
The Surgeon General

Illustrated



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916



TYPE OF MODERN BATTLESHIP OF THE UNITED STATES NAVY.

THE NAVY AS A SPECIAL FIELD FOR MEDICAL WORK.

The attention of medical practitioners, more particularly those who have recently graduated in medicine, is cordially and earnestly invited to the Navy for consideration as a special field for medical work.

This is the age for specialization in medicine, and one when all persons of the medical profession are endeavoring to perfect themselves in some special branch of medicine upon which they have decided as their chosen life work.

Any military service is a special field of medical and sanitary practice, the conditions existing therein determining the essential differences between it and civil practice.

It must be remembered, therefore, that the medical officer of the Navy is a specialist; that Navy medical work is a special branch of medical and sanitary practice and must be viewed as one among the many other special fields of medicine, as eye, ear, neurology, hygiene, etc.; and that the practitioner who takes up this line of work must likewise be specially trained as is the specialist in another branch. It, however, differs so essentially from civil practice that this training must be of a character peculiar to the problems of the naval service.

The applicant must approach his decision to undertake this special work as he would the question of entering any other specialty. In conjunction with his duties the medical officer may also perfect himself in some branch of medicine for which he has a particular bent or liking. He may specialize as a hygienist, a specialist in tropical medicine, eye, ear, etc.

Let us now look upon what constitutes this field of medicine.

The Navy consists of its ships or floating force, its navy yards for the building, repair, and upkeep of these ships, its naval training stations for the training of men to man these ships and yards, its naval hospitals for the treatment of the sick, etc. Each one of these units is a community in itself, with one department interdependent upon another. A ship with its complement of several hundred men is similar to a small town, having consideration for its water and food supply, its sewage disposal, lighting of its passageways and living apartments, heating and ventilation of its living quarters, protection against epidemic diseases, maintenance of the general health of the community, general hygienic and sanitary matters; in fact, almost every question that arises in a small civilian community. On board this ship there are officials who represent in a similar way the various officials of a town. It can be readily seen, therefore, that the medical officer represents not only the board of health but also the sanitary inspector and the medical adviser and family physician. In other words, he looks out for the general hygienic and sanitary matters and treats all the sick. His is a combined duty. He represents all the medical talent available to any community. However, as this community in which he is located moves about over the globe from one region to another, he first must deal with conditions of a northern climate and again with the conditions of a tropical climate. He must at all times maintain the health of the personnel in the highest state of effectiveness. In order to do this the medical officer must keep himself thoroughly informed of advances upon all medical matters and general sanitation; he must be familiar with the latest information relative to the cause and prevention of disease, modern means of lighting and ventilation, special treatments of special diseases, and be ready at any time to undertake to the best of his ability any question which may be brought to his attention. It is therefore necessary that he do much reading of medical publications, and that he must not lag behind in the rapid advances of medical knowledge.

The general work of the medical department consists of the following:

From the practitioner's standpoint the medical officer begins with the physical examination of all applicants for enlistment or candidates for commission in the Navy and Marine Corps. In this work many men are specially trained, and the work requires much attention to detail, a thorough knowledge of the physical requirements and the means of making physical examinations, in order that the men accepted may be physically fitted for the occupation in which they are to engage. Having accepted these men, the medical officer must maintain them in the best possible health. These men must be vaccinated for smallpox and typhoid; they must be suitably clothed, fed, and supplied with heat and fresh air in their living and sleeping apartments. They are subject to all manner of diseases, many of the contagious diseases of childhood being found among them upon entrance. On board ship sick call is held daily, and all those who are suffering with any disease or injury present themselves for treatment. These treatments may consist of temporary medications, applying emergency dressings, and work similar to an out-patient department. Men may be suffering from conditions which require them to be treated in bed; these men are admitted to the sick list and are placed under treatment in the sick bay (the ward), where they are kept until convalescent, being nursed by members of the Hospital Corps. Special treatment, such as to the eye, ear, nose, and throat, etc., may be required. Should surgical cases arise, it may be necessary to perform minor and major operations in the well-equipped operating room of the ship. Should at any time cases of a medical or surgical nature of such a serious character arise for the treatment of which the facilities aboard the ship are not adequate, or the case is of such a nature as to be long drawn out, the patient may be transferred from the ship to the hospital ship or to a naval hospital for further observation, treatment, and convalescence. The decision in this matter rests entirely with the medical officer concerned. Should an epidemic disease break out the medical officer must carry out means of isolating all cases, fumigating the compartments, and making such disposition of the circumstances as possible. At this point his work joins that of the Public Health officials. We will, therefore, look to the general sanitary feature of the work.

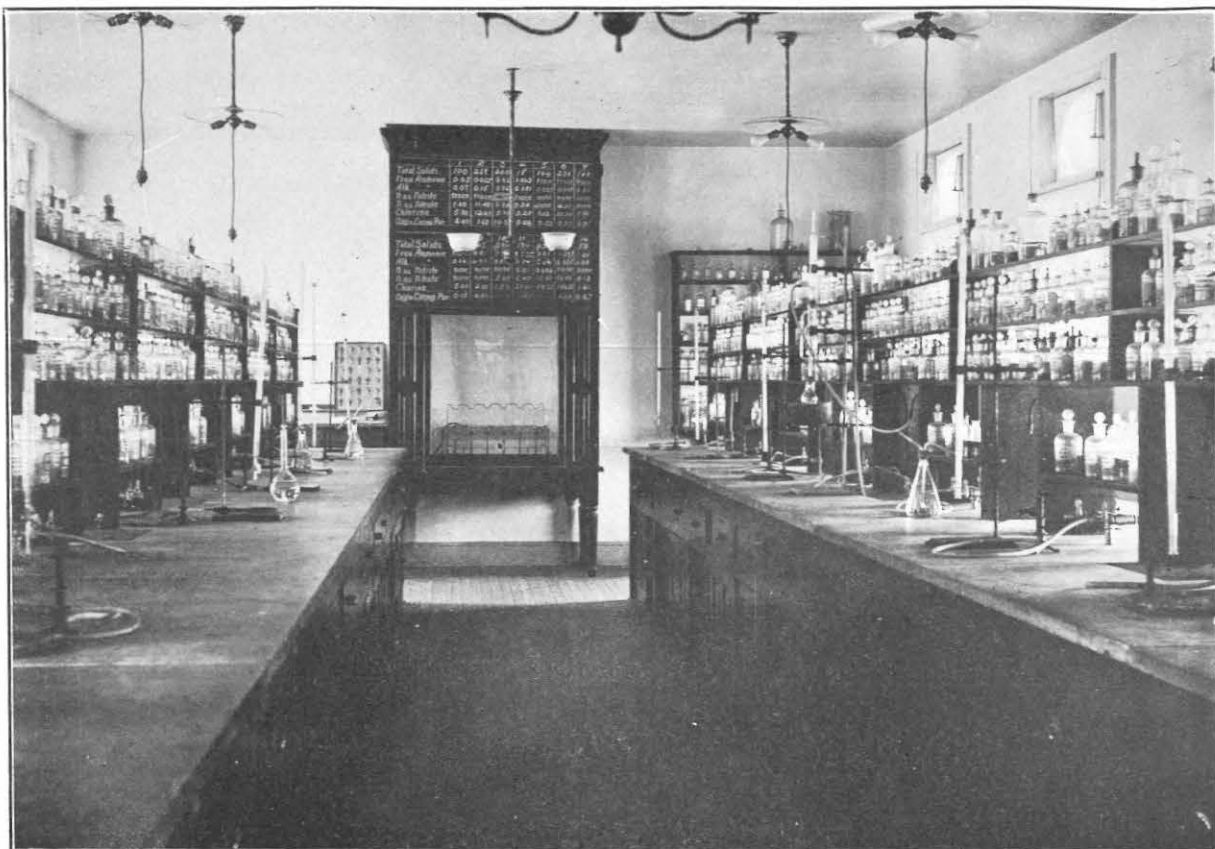
General hygienic and sanitary problems confront the medical officer at all times. In part there are questions as to ventilation of the ship's compartments—a matter of the greatest importance on board ship—where moisture, heat, foul air, and the close association of human beings enter into its consideration; the question of sufficient heat in order that one part of the ship will not be too hot and another too cold; the isolation of cases and general disinfection and fumigation with reference to contagious epidemic infectious diseases; the supervision of the ration, its character and quantity; attention to the sewerage system of the ship, suitable bathing facilities, laundry, etc. From time to time medical officers are assigned to duty with marine expeditionary forces, this duty being similar to that of an Army surgeon. In this particular, therefore, camp sanitation and hygiene must be familiar to the medical officer, and general supervision of the camp, policing of the grounds, and disposal of waste come under his purview.

The medical department on board ship is established in a generous space, specifically provided for in the plans of the ship. This space on the larger ships is divided usually into an examining room, a dispensary, an operating room, bathroom, and a large compartment, termed the sick bay (similar to a hospital ward), containing several beds for the sick, and also a small isolation room for contagious disease. In a near-by section of the ship a storeroom is designated for medical, surgical, and other supplies only. The operating room is equipped with modern appliances, furniture, sterilizers, and surgical instruments, etc. The whole department is furnished with all appurtenances necessary for the ordinary care of such cases as may be presented.

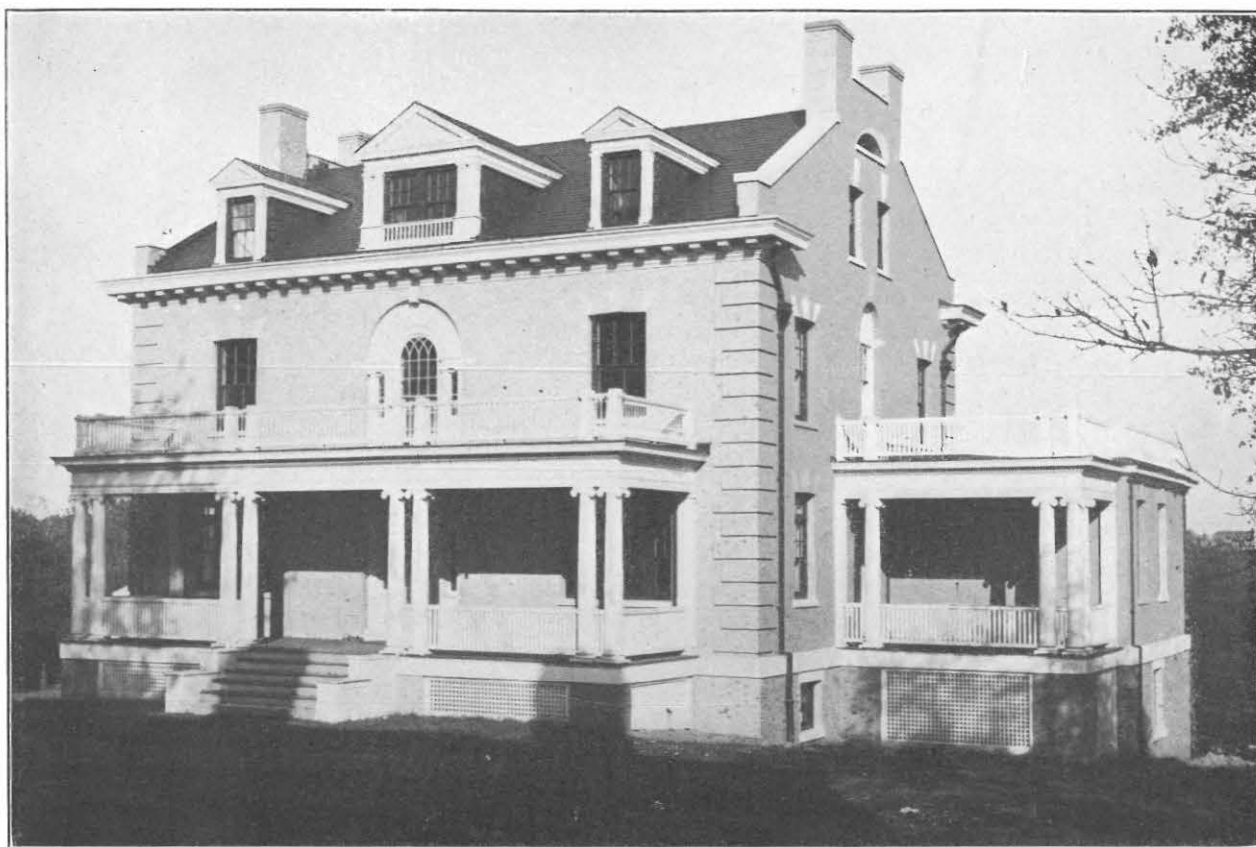
In attendance upon the fleet there is a hospital ship which in every way is as well equipped as any civilian hospital. This ship carries a full staff of medical officers, most of whom are specialists in various branches of medicine. To this ship are sent the sick of the fleet, those who are critically ill, those whose cases will require a long time to cure, such surgical cases as demand special care



UNITED STATES NAVAL MEDICAL SCHOOL, WASHINGTON, D. C.



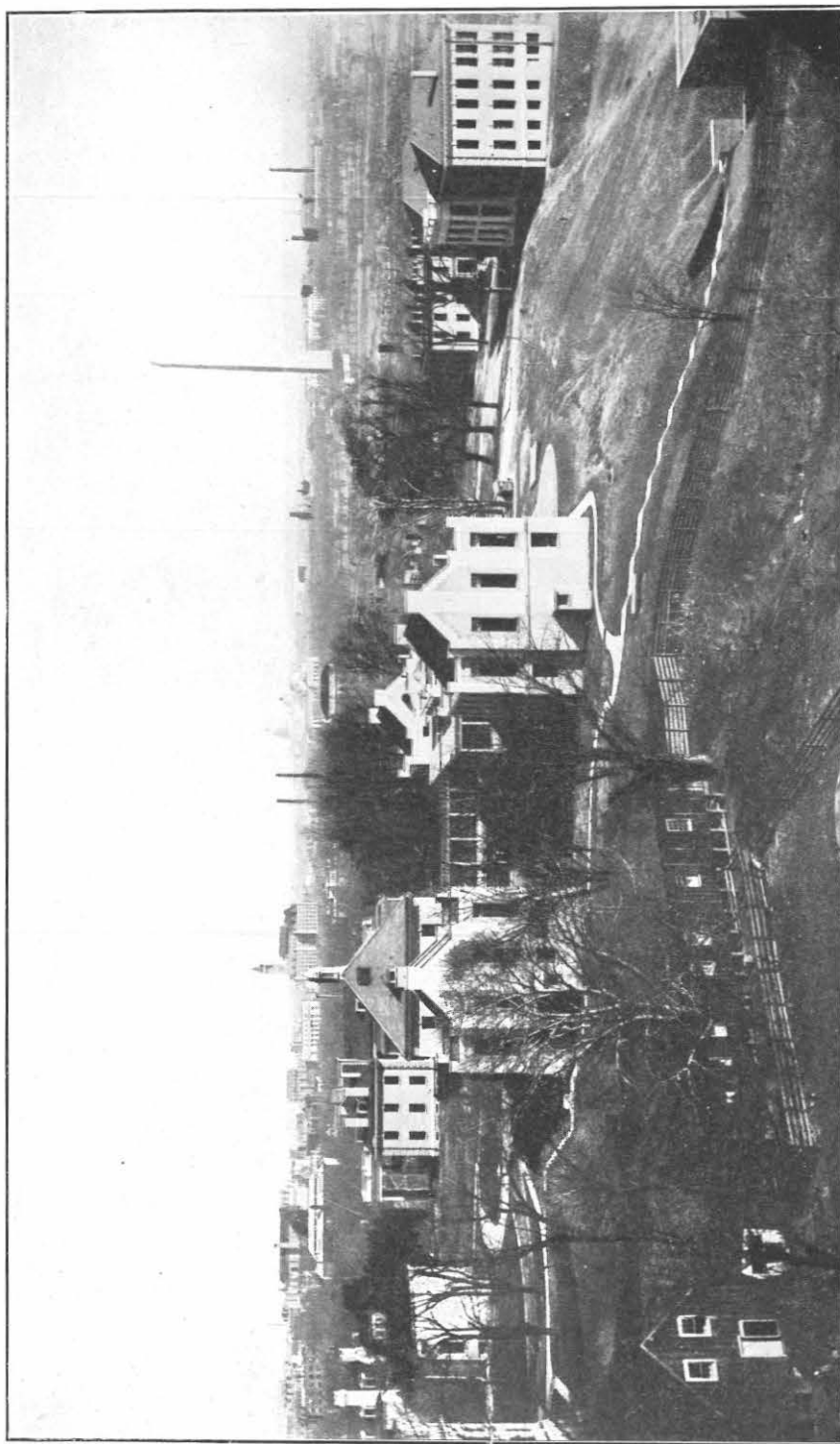
CHEMICAL AND PATHOLOGICAL LABORATORIES, UNITED STATES NAVAL MEDICAL SCHOOL.



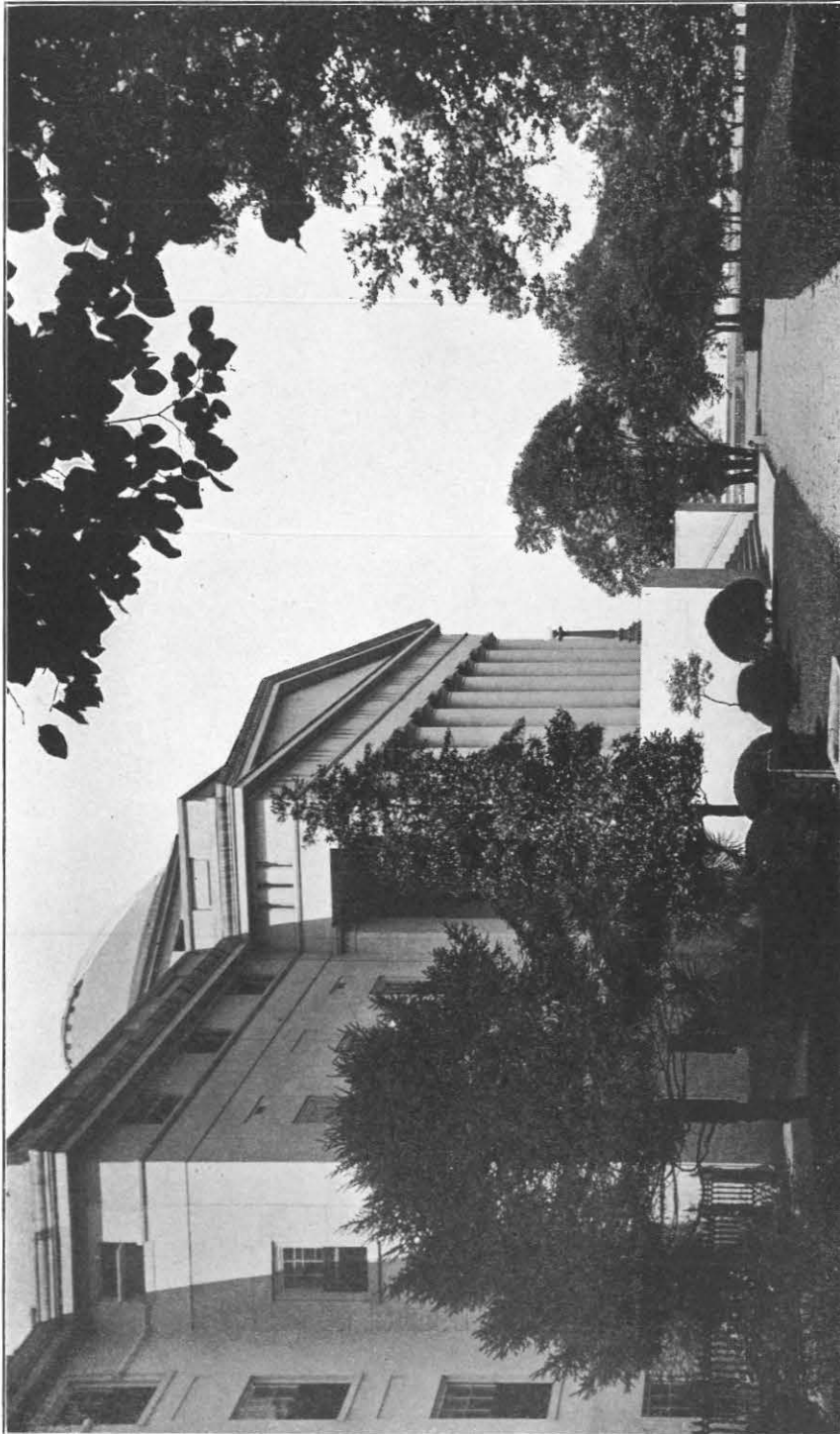
TYPE OF MEDICAL OFFICER'S QUARTERS.



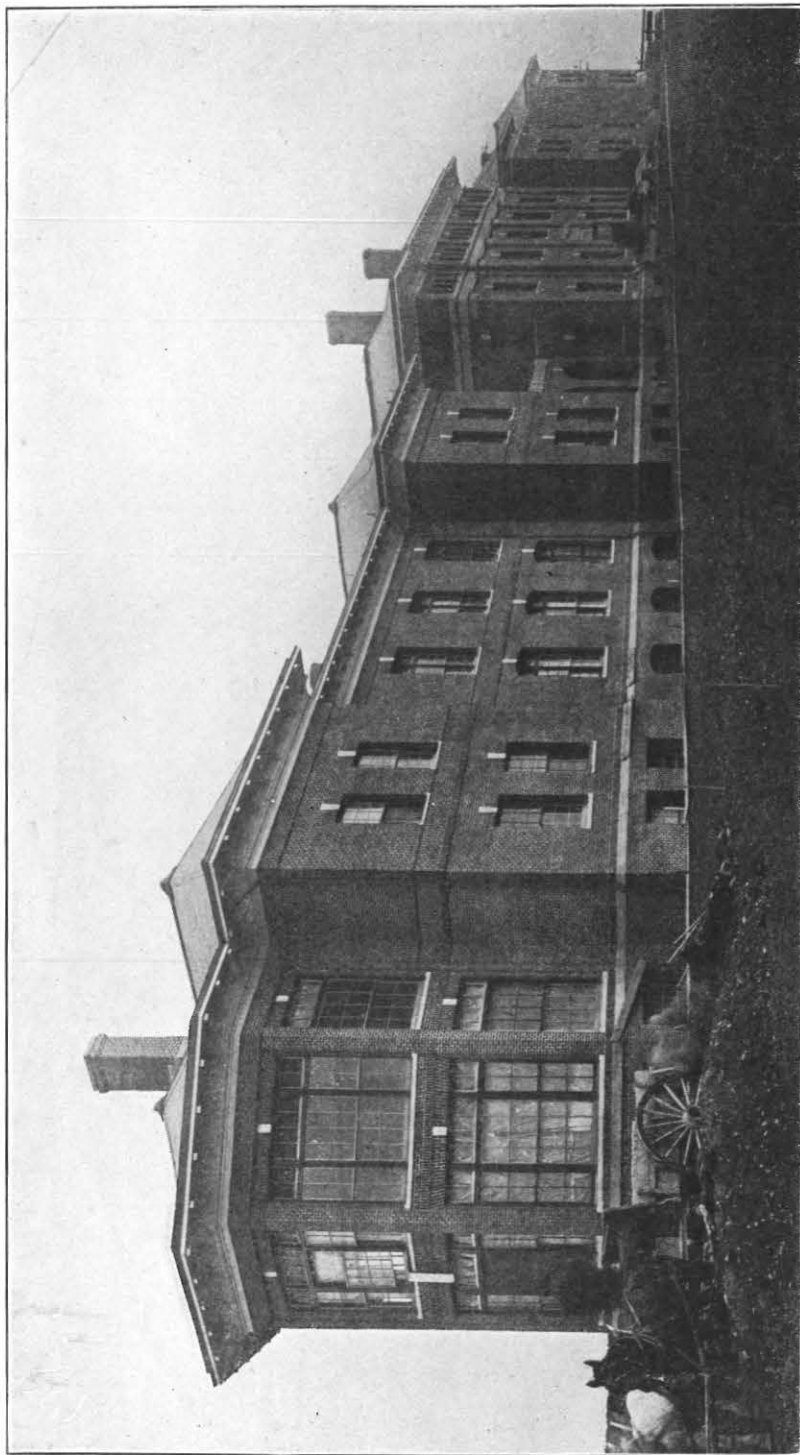
TYPE OF NAVY YARD DISPENSARY AND SURGEON'S OFFICE.



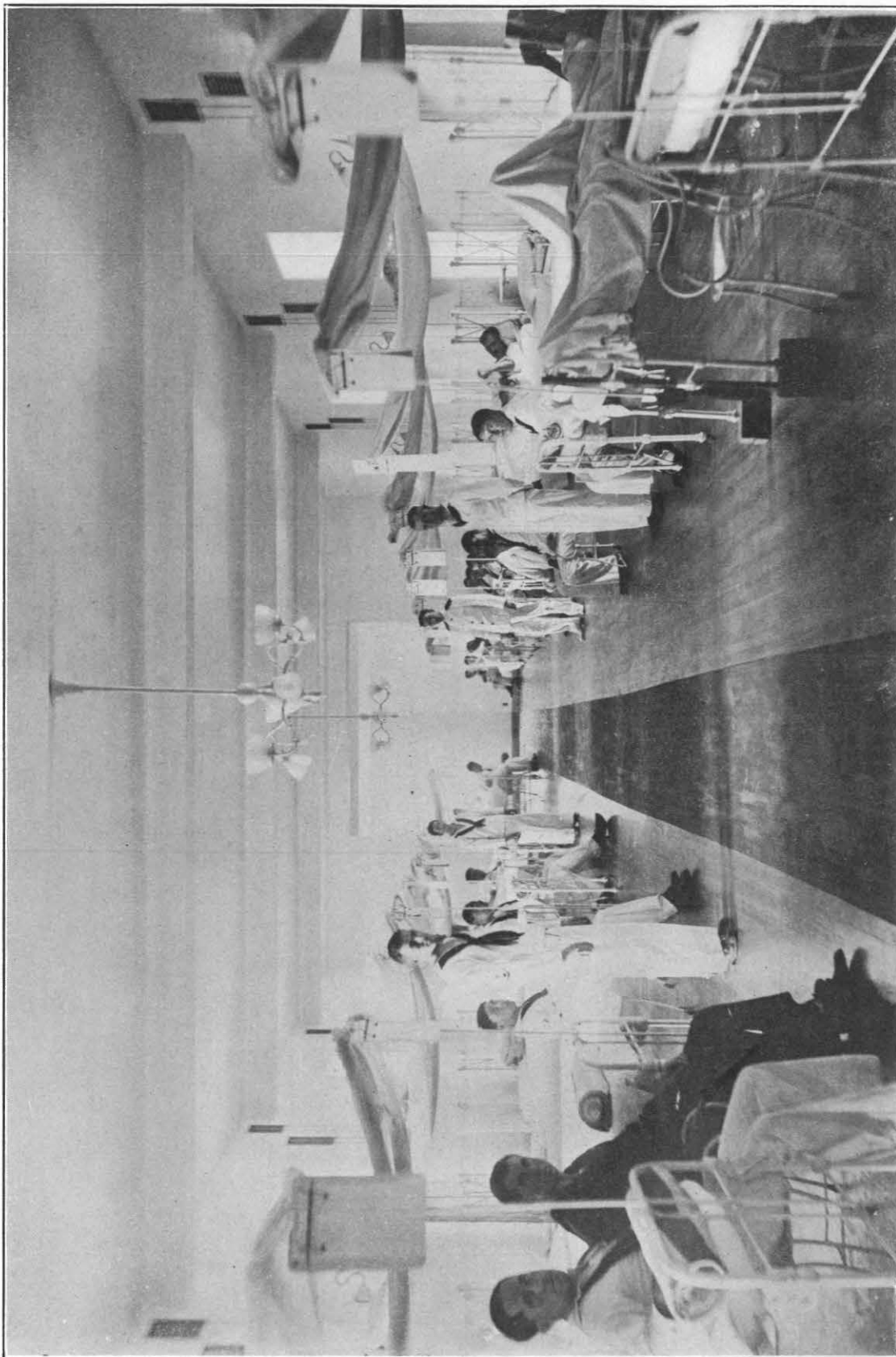
UNITED STATES NAVAL HOSPITAL, WASHINGTON, D. C.



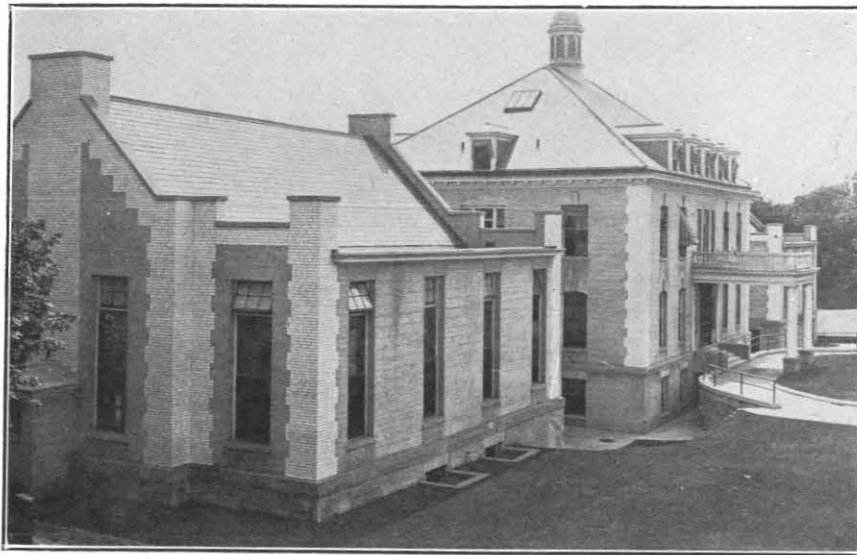
UNITED STATES NAVAL HOSPITAL, NORFOLK, VA. TYPE OF OLDER INSTITUTION THOROUGHLY REMODELED.



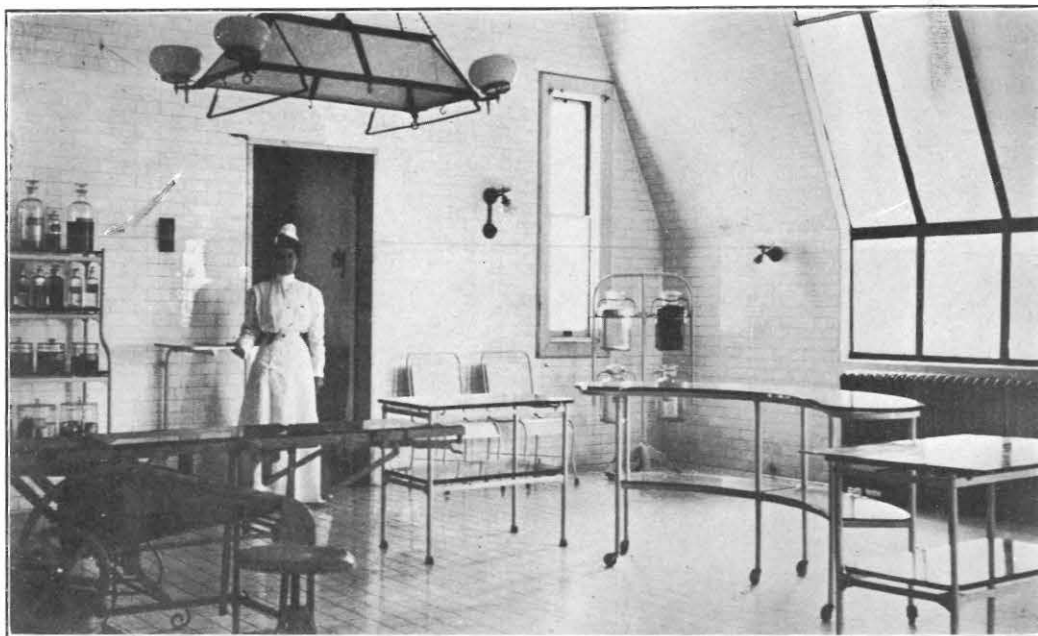
SHOWING STYLE OF NEWER HOSPITALS.



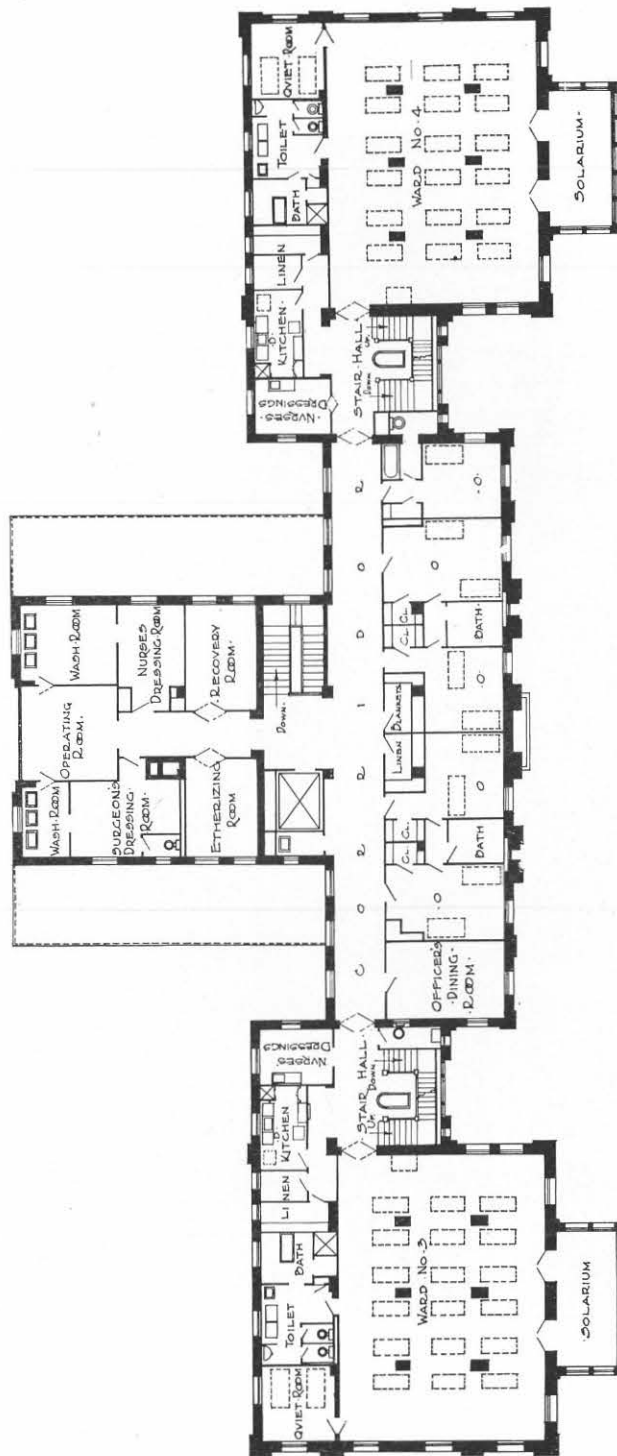
TYPE OF WARD, UNITED STATES NAVAL HOSPITAL.



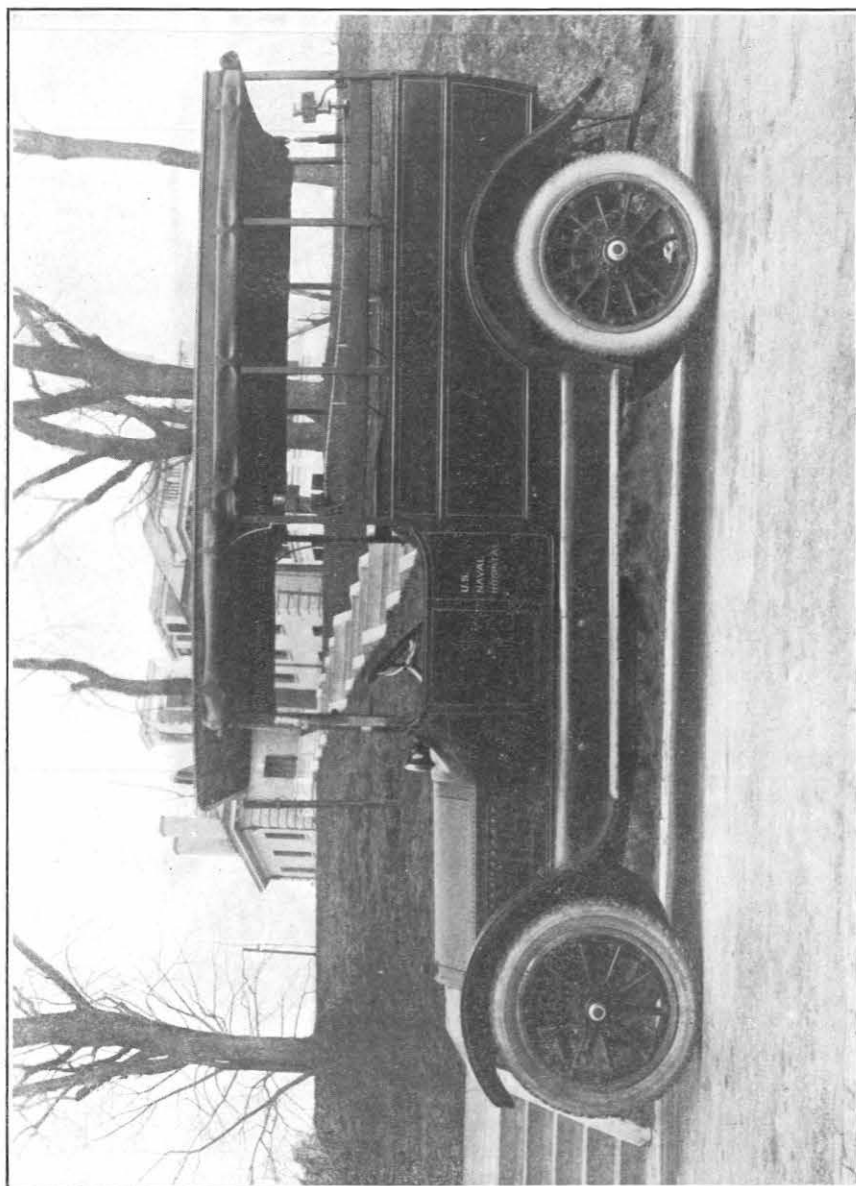
MAIN BUILDING, UNITED STATES NAVAL HOSPITAL, WASHINGTON, D. C.



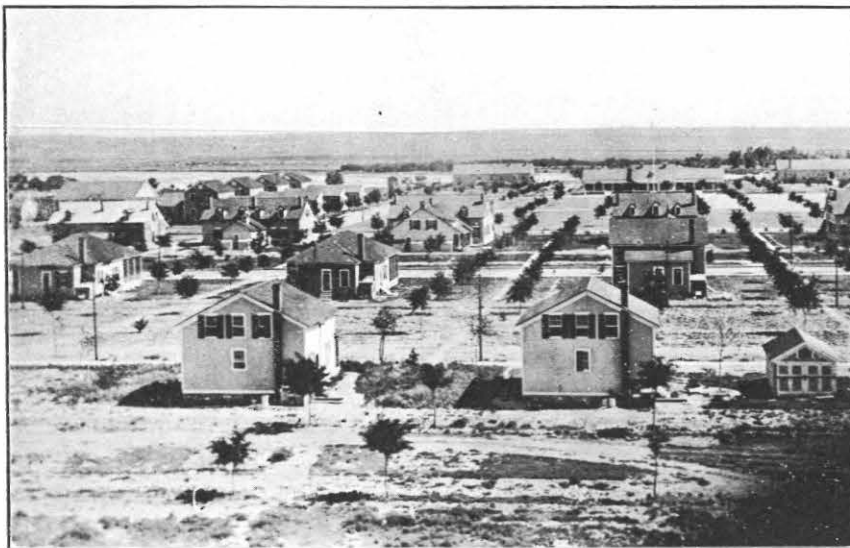
OPERATING ROOM, UNITED STATES NAVAL HOSPITAL, WASHINGTON, D. C.



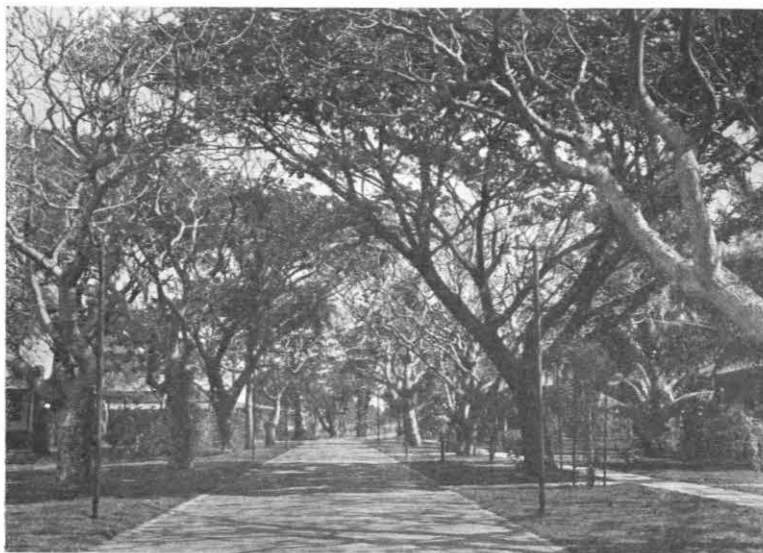
FLOOR PLAN, NEW HOSPITAL CONSTRUCTION.



TYPE OF AMBULANCE IN USE AT NAVAL HOSPITALS.



UNITED STATES NAVAL HOSPITAL FOR TREATMENT OF TUBERCULOSIS,
LAS ANIMAS, COLO.



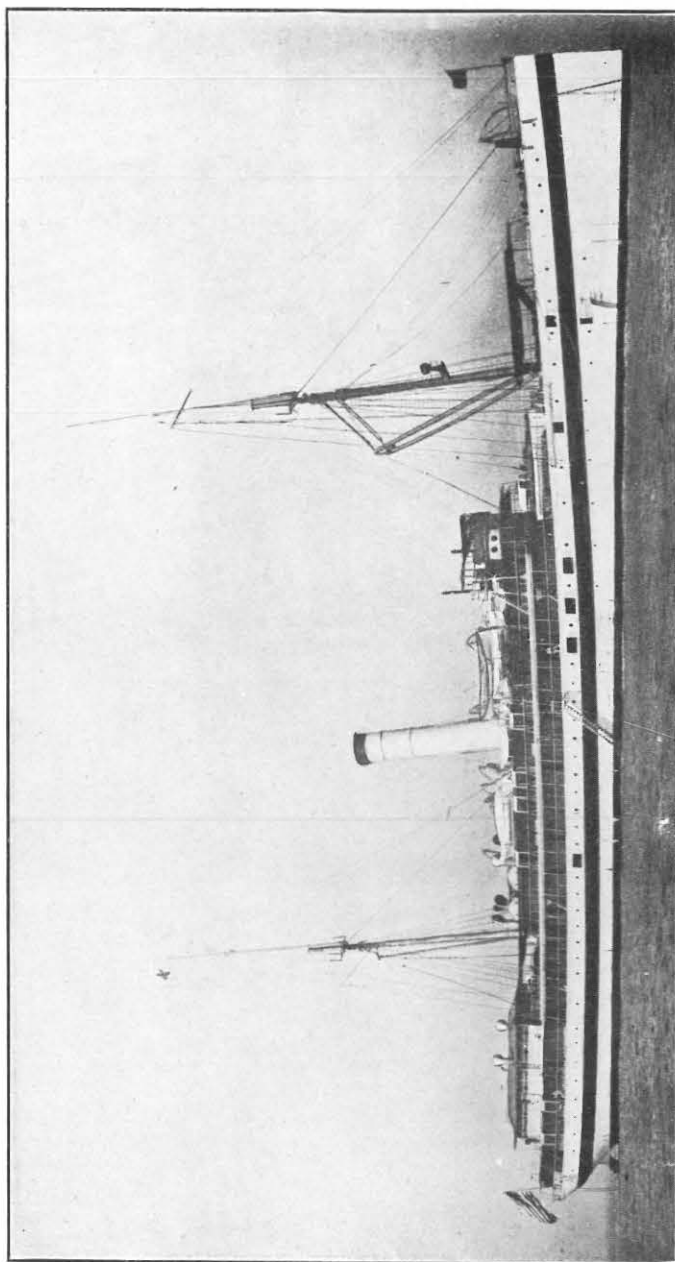
A TROPICAL STATION.



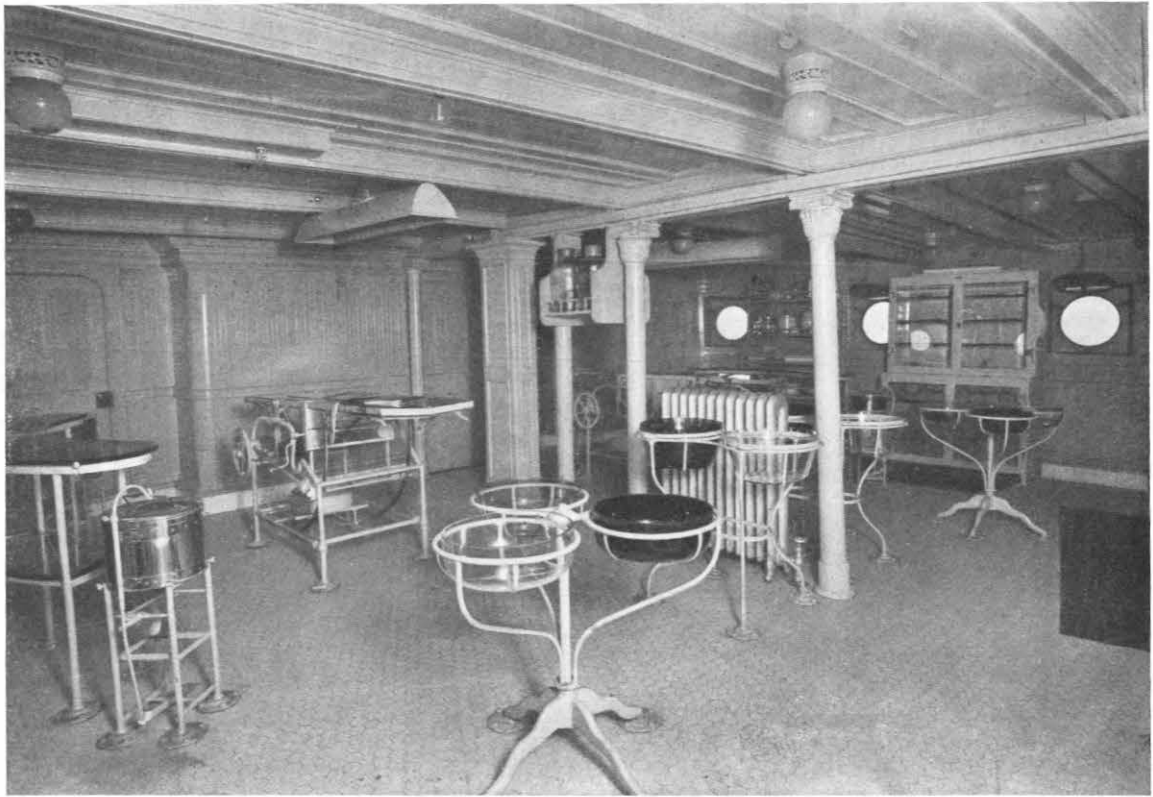
Street in Leprosy & Gangosa Colony, Guam.



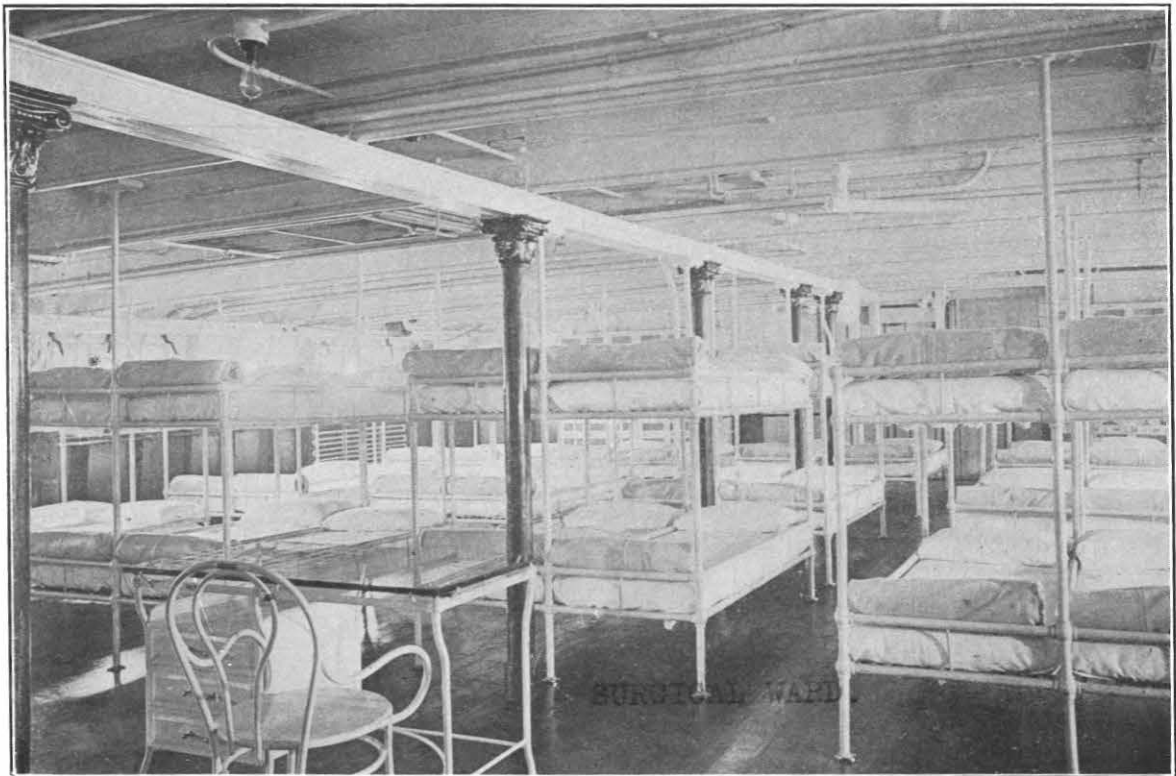
WARD IN NAVAL HOSPITAL IN THE TROPICS.



UNITED STATES NAVAL HOSPITAL SHIP "SOLACE."



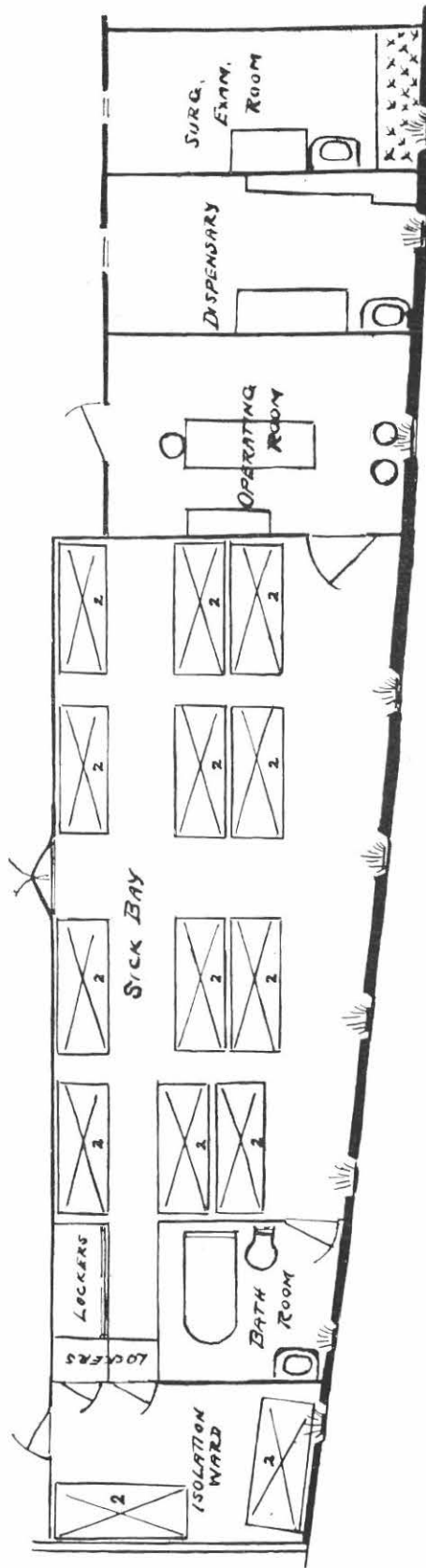
OPERATING ROOM, U. S. S. "SOLACE."



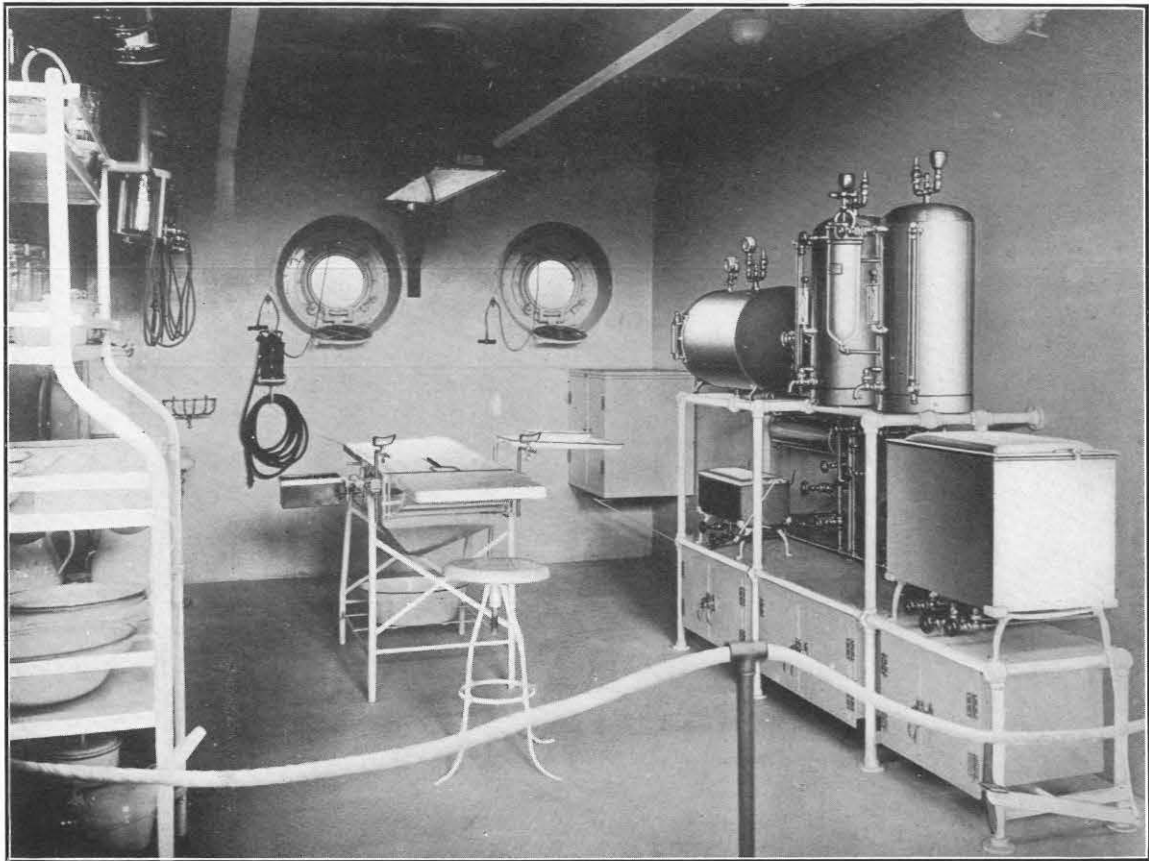
WARD, U. S. S. "SOLACE."



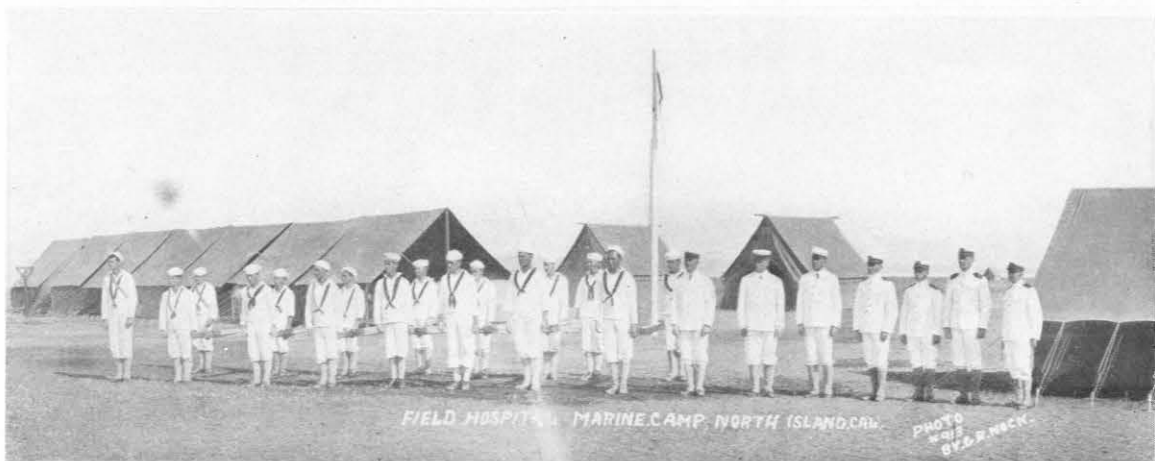
HOISTING PATIENT ABOARD U. S. S. "SOLACE."



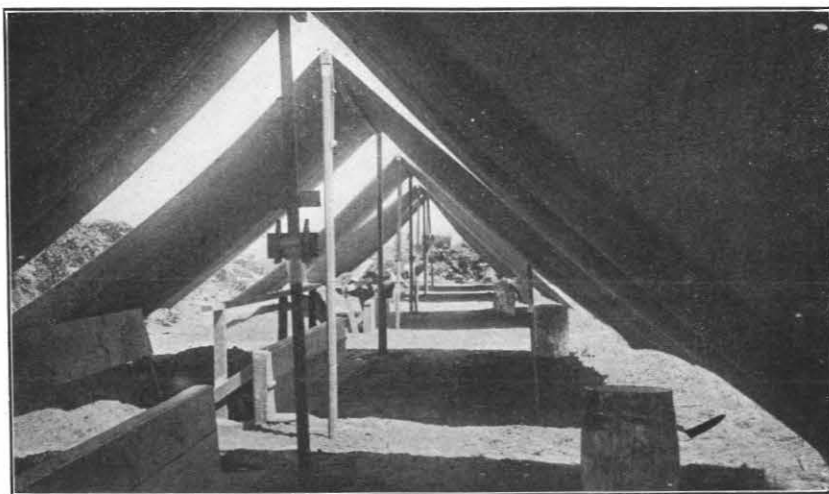
TYPE OF MEDICAL DEPARTMENT SPACE ON MODERN BATTLESHIP.



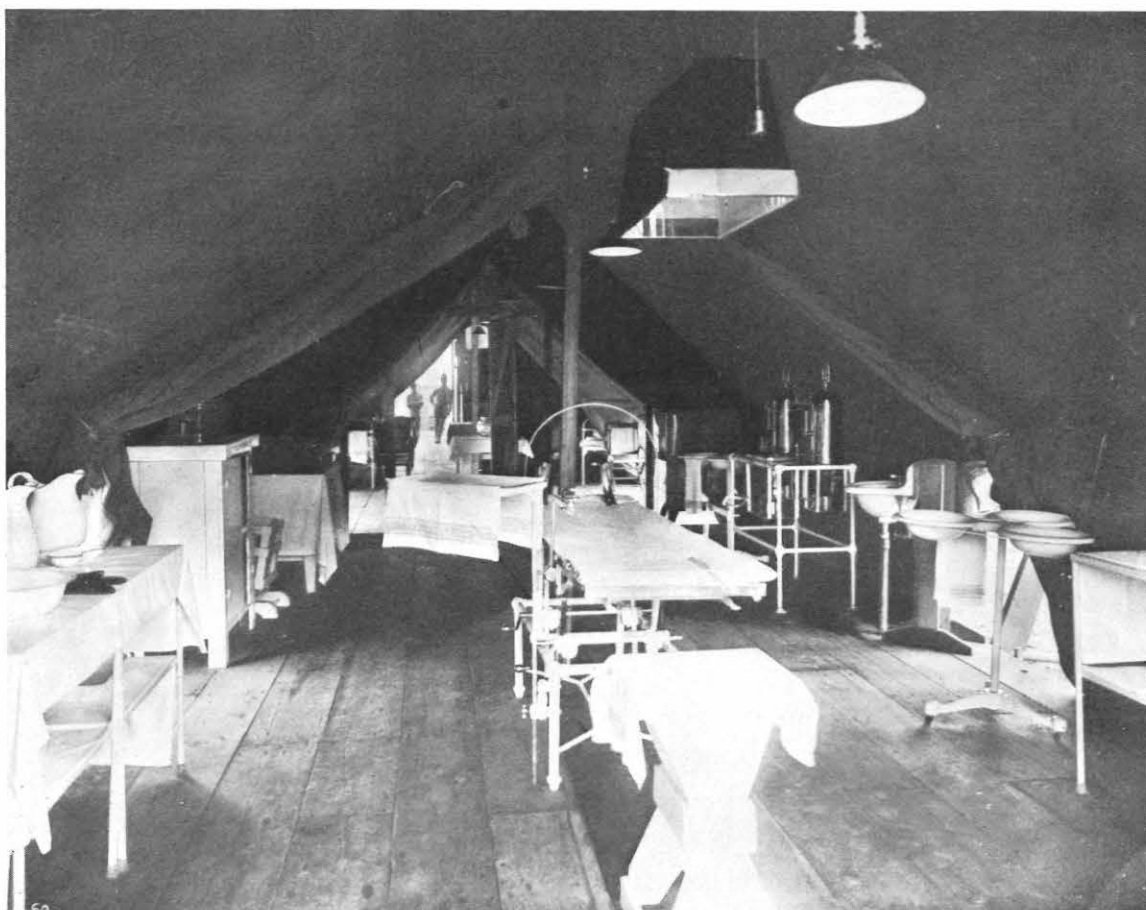
OPERATING ROOM ON MODERN BATTLESHIP.



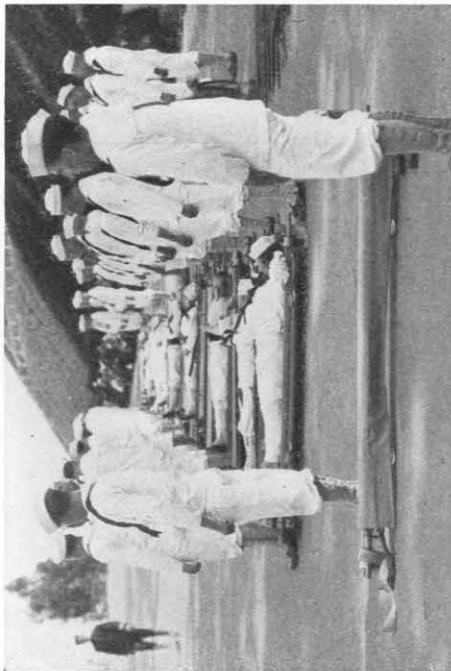
HOSPITAL CORPS DETACHMENT WITH MARINE ENCAMPMENT.



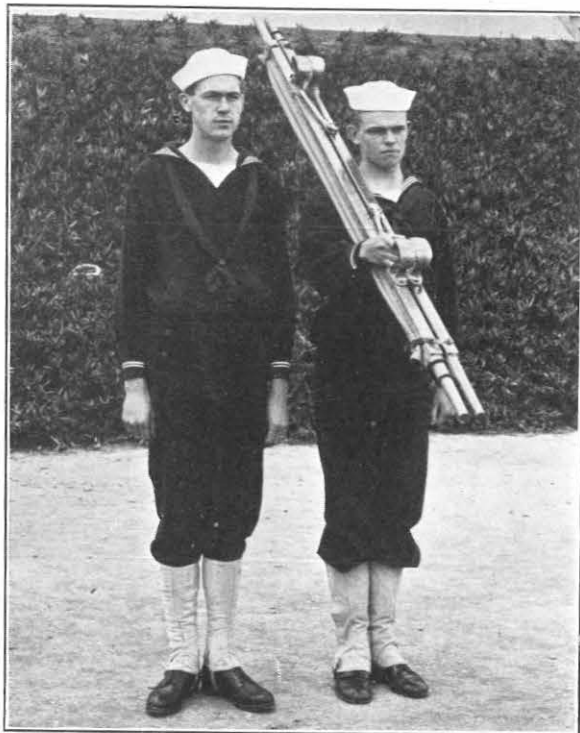
FIELD LATRINE.



FIELD HOSPITAL.



FIRST-AID INSTRUCTION OF HOSPITAL CORPS MEN



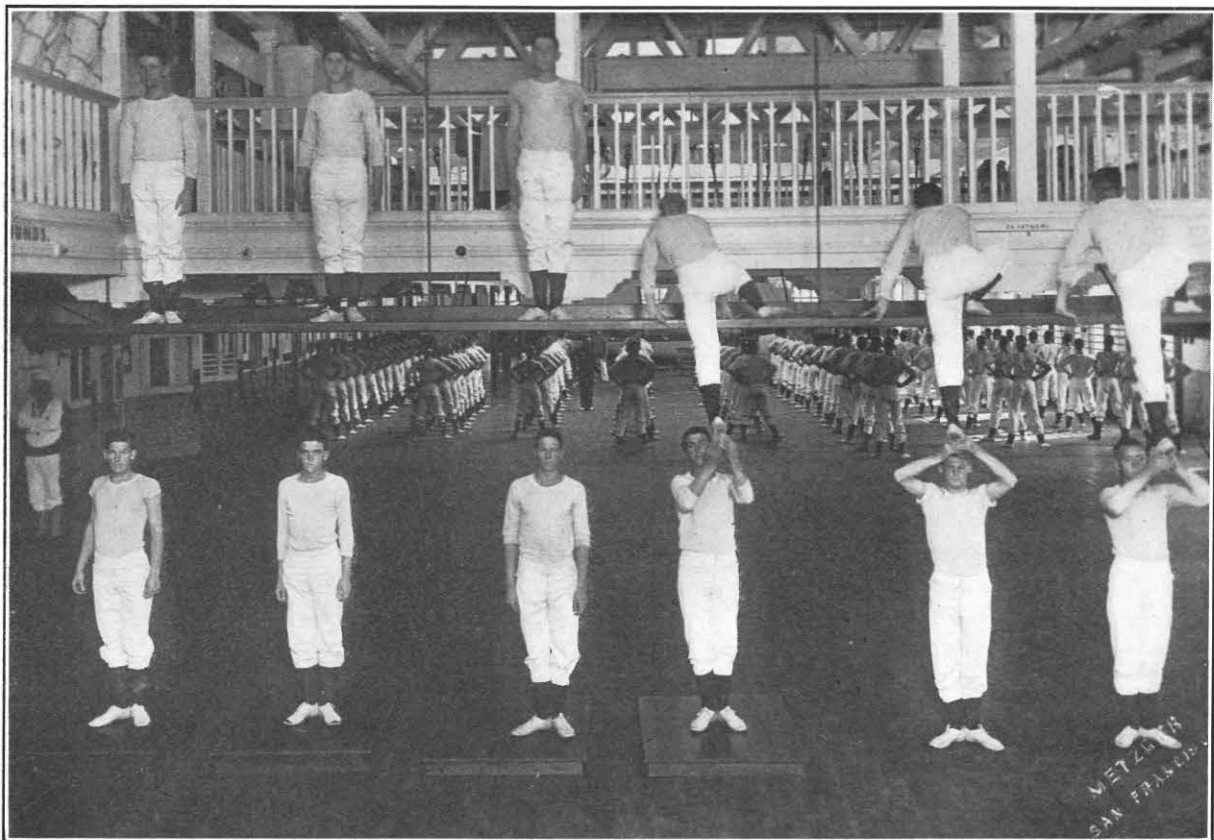
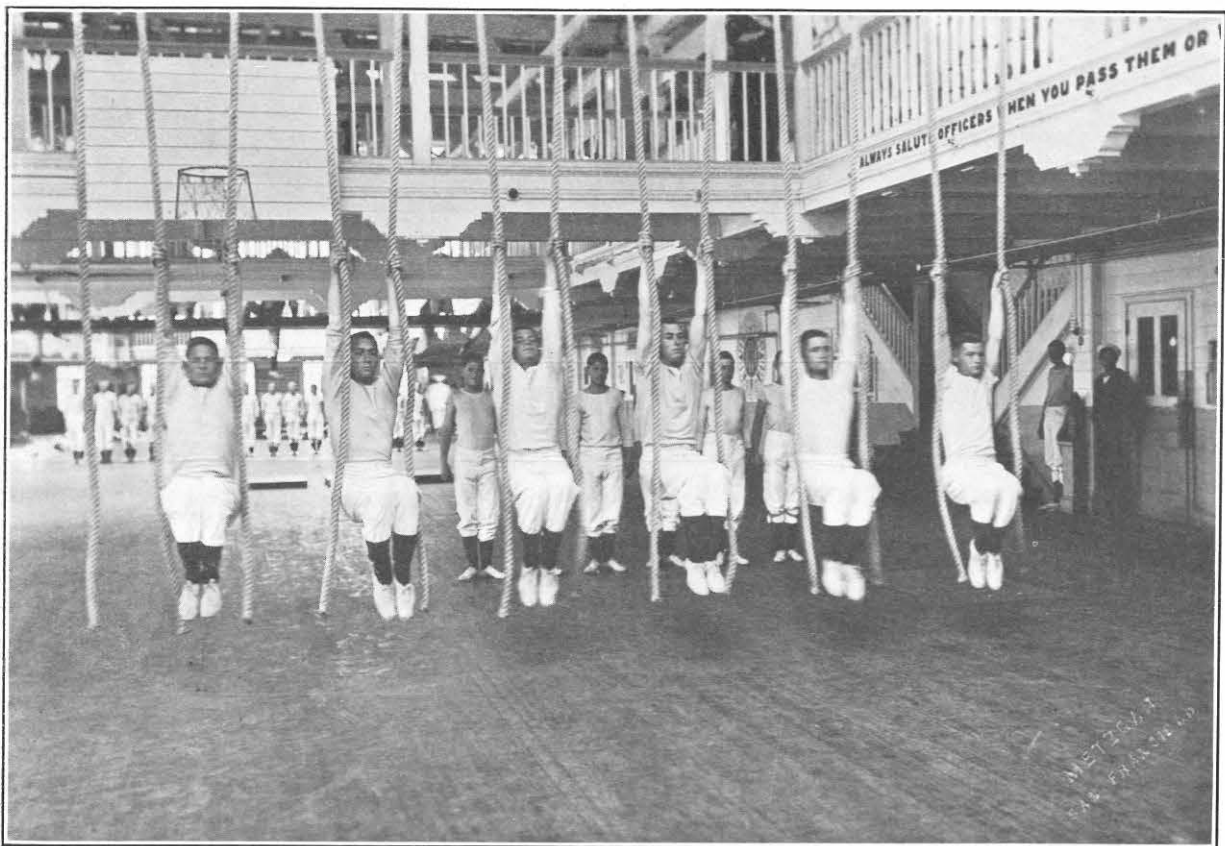
HOSPITAL CORPS STRETCHER DRILL.



HOSPITAL CORPS STRETCHER DRILL.



THE NAVY STRETCHER (STOKES SPLINT STRETCHER).



PHYSICAL TRAINING.



and attention, all wounded from engagements on board ship, expeditionary services, etc. This ship is ordered from place to place to meet a demand for her services in connection with the employment of naval forces.

There are a number (18) of large hospitals under the supervision of the Bureau of Medicine and Surgery, most of which are established at large cities like Boston, New York, Philadelphia, etc., and in foreign possessions. These hospitals have a staff of medical officers, are thoroughly equipped with all medical and surgical appliances, X-ray machines, hydrotherapeutic apparatus, etc., and to them are sent the sick of the fleet, the ships, the navy yards, the naval stations, etc., in the immediate vicinity. These hospitals are conducted after the manner of the civilian institutions, the nursing staff consisting of a certain number of nurses of the Nurse Corps (female) of the Navy, and the Hospital Corps. To these hospitals as members of the staff every effort is made to assign medical officers who are qualified in particular lines of work, such as a surgeon, an internist, an X-ray specialist, an eye specialist, etc.

At these hospitals and on board the hospital ship are maintained laboratories for pathological, bacteriological, chemical, and other laboratory procedures. The number of these examinations in all classes is very large.

Frequently those medical officers who are detailed for duty with marine expeditionary forces are called upon to supply medical attention to the native inhabitants of the locality immediately surrounding the expedition. In this way frequently valuable experience is obtained. Medical officers are at times assigned to general hygienic and sanitary work in connection with the development of certain island possessions, cleaning up of unhealthy localities in adjacent countries, etc.

To assist the medical officer in carrying on this very extensive work, books, surgical instruments, special instruments, abundant dressings, drugs, and general equipment are liberally supplied at Government expense by the Bureau of Medicine and Surgery. These means may be obtained by submitting requisitions from time to time to the proper authorities.

Medical officers are encouraged in every way to maintain themselves at the highest state of efficiency in their profession. They are encouraged to perfect themselves in special branches for which they may have a desire to enter, a special bent, or previous training. While they are attached to naval hospitals, shore stations, and at times on board certain ships opportunities are available for them to undertake courses in medical schools and hospitals at many of the large cities and medical centers. Medical officers who have so trained themselves are encouraged, in so far as the requirements of the service permit, to pursue their specialty, in that they may be detailed to duty where an opportunity exists, but only when such assignments are available. No special assignments, however, can be made for officers to undertake studies or for personal reasons. By means of the travel afforded a medical officer of the Navy he has an available means for cultivating his general knowledge of foreign lands and peoples in the way of general information as well as professionally.

The value of the medical officer and his department is coming to be more and more recognized. The highest efficiency in the medical officer is expected; individual merit is thoroughly appreciated and recognized.

The requirements, appointment, and status of the medical officer are as follows:

The naval service, by reason of its world-wide intercourse, requires in its personnel the instincts, discernment, and conduct of a gentleman. As officers of the Navy come into contact with the most cultivated and interesting people of every country, it is essential that personal qualifications should enter into the determination of general suitability for the service. The wide range in the character of the work and responsibilities calls for high professional standards and ready adaptability. In this connection also it may be readily seen that the applicant's general preliminary education should be of the best.

Professionally the applicant must be a graduate from a standard, recognized, reputable school of medicine; evidences of his professional ability, periods of training in actual practice or in hospitals, are of advantage to the applicant. Men who have had special training and experience will find that it stands them in good stead in later life.

Physically the applicant must come up to the physical requirements and standards and be free from disease. The professional examination is one which any well-qualified physician should be able to pass, particularly those men who have recently graduated from a medical school or who have undergone examinations for State board registration. The examination is conducted in two parts, the preliminary examination being that for appointment in the Medical Reserve Corps. Should the applicant pass this preliminary examination, he is given a commission in the Medical Reserve Corps with a view to attending a special course of instruction and commissioning in the regular corps. Upon receiving a commission in the Reserve Corps the student officer is detailed to the Naval Medical School at Washington, D. C., for a special course of instruction in the various duties of the medical officer of the Navy, in special diseases, in operative surgery, in laboratory, in drills, etc. At the end of this course he undergoes the second and final stage of the examination, upon passing which he is commissioned as an assistant surgeon in the regular Medical Corps of the Navy.

Should a student officer fail to pass the examination at the end of the school course, he continues as a member of the Medical Reserve Corps. His course of instruction has been of unusual character and value and will be found to his advantage in the practice of medicine in civilian life.

Subsequent to successfully completing the course at the Naval Medical School and receiving his commission as an assistant surgeon in the Medical Corps the officer is detailed to sea duty, the cruise usually continuing for about three years. He is then assigned to some shore duty for a longer or shorter period (usually about two years) until his services are again required at sea. These alternating periods of sea and shore duty continue until the upper grades are reached, when the officer is detailed to command one of the large hospitals, the medical school, or some other desirable assignment.

The status of the medical officer is that of a regular commissioned officer in the Navy, having received his commission from the President, with the consent of Congress, and enjoys all the rank, pay, allowances, privileges, courtesies, and advantages of all other officers. In civil life he is regarded as holding a high social, professional, and official standing and place. On board ship he is a ward-room officer, and his personal accommodations are the same as those of other officers. He has a stateroom to himself, messes with all high-ranking officers below the rank of captain. On shore he is provided with quarters which are heated and lighted and kept up at Government expense, or in lieu thereof is granted a stated allowance in money with which to provide for himself, and may live with his family.

The tenure of office in the Medical Corps of the Navy is for life, unless sooner terminated by removal, resignation, disability, or other casualty.

Officers of the Medical Corps of the Navy are retired from active service at the age of 64 years, and when so retired (or when retired from active service for disability or other casualty contracted in line of duty before that age) receive an annual pay for life amounting to three-fourths of the (highest) pay of their grade at the time of retirement.

If, upon examination for promotion, an officer is found disqualified by reason of physical disability incurred in line of duty, he is retired on an annual pay amounting to three-fourths that of the grade to which he is due for promotion.

When any officer in the Medical Corps of the Navy has been 30 years in the service, he may, upon his own application, in the discretion of the President, be retired from active service and placed upon the retired list with an annual pay for life amounting to three-fourths of the highest pay of his grade at the time of retirement.

Immediately upon official notification of the death from wounds or disease, not the result of his own misconduct, of any officer of the Navy, the Paymaster General of the Navy will cause to be paid to the widow, and if no widow, to the children, and if there be no children, to any other dependent relative of such officer previously designated by him, an amount equal to six months' pay at the rate of pay received by such officer at the date of his death.

When traveling under orders, by other than public conveyance, officers of the Navy receive 8 cents a mile to defray the expenses of such travel performed from point to point within the United States, and when so traveling abroad are allowed actual personal expenses, estimated on a liberal basis in accord with the position of the officer, both as regards admissible items of expense and the cost of such items.

For every five years' service the pay of officers is increased 10 per cent (though not to exceed 40 per cent), calculated on the annual base pay of their grade; but the pay of medical director with rank of captain is limited to \$5,000; that of medical inspector with rank of commander to \$4,500, and that of surgeon with rank of lieutenant commander to \$4,000. The pay of a medical director with rank of rear admiral is \$6,000 for the lower half, \$8,000 for the upper half of those in that grade.

When an officer goes to sea or leaves the continental limits of the United States under assignment to stations or for the performance of other duties beyond the seas, his pay is increased 10 per cent, and this increase is calculated upon the pay, including increases for length of service, which said officer may be receiving at the time of entering upon such duty or to which he may succeed by virtue of promotion or length of service during the performance of such duty. This increase for sea duty or service beyond the continental limits of the United States does not fall under the statutory restrictions above mentioned, which control the increase of pay for length of service in the grades above passed assistant surgeon.

Promotions to the higher grades are made in the order of seniority to fill vacancies as they are created (by resignation, retirement, or death), and for each promotion a physical and professional examination is required by law.

Full information with regard to pay and allowances will be found in the "Circular for information of persons desiring to enter the Medical Corps of the Navy."

EXPENSES.

The expenses of an officer depend entirely upon his personal tastes and inclinations. The mess bill in any mess averages \$30 per month. The only mandatory expense is that of uniform, and here again within reasonable limits an officer may be as extravagant or conservative as he desires. Personal and miscellaneous expenses are the same as would exist under the circumstances of civil life.

The duties of the Navy medical officer will keep him fully occupied.

The service is eminently scientific, following out lines of research, of construction, of developing improvements, of education. Its traditions are of the best. It is attended by responsibilities which are heavy and of greatest importance, and frequently far overreach those in civilian practice. There are pleasant and unpleasant duties, hardships and hazards, as in all walks of life. It is, however, an honorable, progressive, stimulating, self-respecting calling, satisfying to ambition, and of which the medical man may feel justly proud, for can we not point to the many advances and discoveries in the development of medical science which have originated with or have been determined by medical men of the military establishments?

There is also the satisfaction of giving a service not only of a special character but also of distinct and unusual value to one's country.

NOTE.—For further information address the Surgeon General, U. S. Navy, Navy Department, Washington, D. C.

EXAMINATION QUESTIONS FOR CANDIDATES DESIRING TO ENTER THE MEDICAL RESERVE CORPS OF THE NAVY, WITH
A VIEW TO ENTERING THE REGULAR CORPS AT A LATER DATE. JULY 6, 1915.

ANATOMY.

1. Describe the abdominal aorta and its branches.
2. Describe the popliteal space and contents.

PHYSIOLOGY.

1. (a) Define reflex action. (b) Discuss reflex arc, and illustrate by diagram the simple reflex arc for the spinal cord. (c) How is inhibition of the spinal reflexes brought about? (d) Discuss the knee jerk: Method of production, reinforcement.
2. Discuss (a) secretion of gastric juice; (b) changes in food undergone in stomach; (c) absorption from stomach.

GENERAL SURGERY.

1. Describe Pott's fracture and its production. Give treatment.
2. Symptoms, diagnosis, and treatment of acute appendicitis. Describe operation in detail.

GENERAL MEDICINE.

1. Discuss: (a) Etiology and modes of conveyance of typhoid fever. (b) Complications of diabetes mellitus. (c) Morbid anatomy of Hodgkin's disease.

2. (a) The symptoms and physical signs of acute fibrinous pericarditis. (b) Diagnosis of uremia. (c) The pathology and symptoms of herpes zoster.

MATERIA MEDICA AND THERAPEUTICS.

1. Digitalis series: (a) Name three important plants which contain bodies belonging to this series. (b) Name three important glucosides in digitalis, and which is the most powerful. (c) Discuss the action of therapeutic doses of digitalis on the mammalian heart.
2. (a) Give four methods of treatment other than by drugs, with examples of each. (b) Discuss treatment by vaccines, giving immunological principles involved, method of use, and specific examples.

OBSTETRICS.

1. (a) Describe briefly a normal labor in a primipara, giving the approximate duration of the several steps. (b) Diagnosis of extra-uterine pregnancy.

OUTLINE OF COURSES AT THE NAVAL MEDICAL SCHOOL.

Surgery, general, of warfare, operative (laboratory).

Ophthalmology.

Tropical medicine (also laboratory).

Pathology, bacteriology, helminthology (laboratory courses).

Psychiatry.

Hygiene, general, military and naval.

Chemistry, volumetric and analytical (laboratory).

Medical Department duties, Naval Regulations and Instructions.

Drills for ambulance party, Hospital Corps, etc.

Roentgenology (including operation of apparatus).

Correspondence course for Reserve Corps and militia officers.

